Study on the Impact of Digital Finance on the Upgrading of China's Industrial Structure

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Abstract: Digital finance has become an important development strategy in China and plays an irreplaceable role in the upgrading of China's industrial structure. This paper uses panel data from 30 provinces in China from 2011 to 2020 to study the impact of digital finance on industrial structure. The study finds that the impact of digital finance on industrial structure shows a U-shaped relationship. The development of digital finance will promote the transformation and upgrading of industrial structure when it reaches a certain stage. The results of the sub-dimension show that the coverage breadth and depth of use of digital finance also have a U-shaped relationship with the industrial structure. The impact of digital finance on industrial structure has regional heterogeneity. Finally, the impact of digital finance on different industries also varies.

Keywords: Digital finance; industrial structure upgrading; fixed effects.

1. Introduction

At present, a new round of technological revolution led by digital technologies such as big data, cloud computing, artificial intelligence and the Internet is emerging worldwide. The deep integration of digital technologies and traditional finance has produced digital finance. The world is in the midst of a great change unseen in a century. In China, with the emergence of the Lewis Turning Point [1], the constraints of labor and resources and environment are becoming more and more obvious, and the upgrading of industrial structure with the aim of improving labor productivity and total factor productivity is imminent. So, how should we work on accelerating industrial optimization and upgrading?

Considering the realistic need to maintain sustainable, healthy and high-quality economic and social development, as well as the objective requirement to adapt to the changes in the main contradictions of Chinese society in the new era, in 2016, the G20 Summit formulated the G20 Advanced Principles for Digital Inclusive Finance, which set out digital technology, the balance between innovation and risk, legal and regulatory architecture, digital financial infrastructure, consumer rights protection, digital financial literacy, customer identification, statistical monitoring ideas and other aspects to build a development framework for digital finance. In addition, the Fourth Plenary Session of the 19th CPC Central Committee proposed to improve a modern financial system with high adaptability, competitiveness and inclusiveness, which clearly defines the focus and direction to improve the financial system and enhance the ability of financial services to the real economy. Different from traditional finance, digital finance is inclusive and service-oriented, and is flat and platform-based in terms of customer acquisition. Supported by big data, low cost has also become its significant advantage. Undoubtedly, digital finance is penetrating into various fields and links of society, and has become a representative of the new economy, an important driving force to promote China's supply-side structural reform, and a new engine to promote economic transformation and upgrading. Therefore, it is of great relevance to study how digital finance affects the upgrading of industrial structure.

2. Literature Review

In fact, the issue of the impact of financial development on the optimization and upgrading of industrial structure has been around for a long time. The existing domestic and foreign literature mainly focuses on the impact of traditional finance on industrial structure upgrading and the impact assessment of digital finance. There are mainly two teams regarding the impact of traditional finance on industrial structure. Most scholars believe that a well-systematic financial system can use its inherent credit advantage to absorb idle funds in society and achieve the spatial and temporal transfer of social financial resources needed for industrial structure upgrading (Fernando J. Cardim de Carvalho, 2016) [2] and, with the improvement of resource allocation efficiency in the financial market, the risk of capital flows is continuously reduced and this can promote upgrade of industrial structure, thus maintaining stable economic growth (Wang et al., 2020)

[3]. However, some scholars still argue that, back to the realistic context in China, its traditional financial market has not been able to play the role of incremental supplementation, risk allocation, and stock optimization required for industrial structure upgrading due to the mismatch of attributes, fields, and stages (Cai et al., 2004) [4]. Not only that, China's bank-led financial system has a structural bias toward state-owned enterprises, traditional enterprises, and monopolistic enterprises, and the financial capital market has further inhibited the upgrading of industrial structure (Sun , 2018) [5].

The main paths for the role of digital finance in high-quality economic development are as follows: First, the path of technological innovation. Digital finance is an innovative product generated by the fusion of technological innovation and traditional finance at the genetic level, and technological innovation is a potential driving force for the development of digital finance (Tang et al., 2020) [6]. High-quality economic development cannot be achieved without the effective support of the digital model of finance. Second, the energy-saving and emission reduction path. The inclusive, low-carbon and synergistic nature of digital finance acts as an intermediary for resource allocation and a bridge between financial development and ecological environment through the scale effect and technology effect (Wang et al., 2022) [7], which continuously helps the manufacturing industry break through the "turning point of emission reduction" and realize the green economic development concept that "clear waters and green mountains are as valuable as mountains of gold and silver" (Huang et al., 2022) [8]. Third, the shared development path. The integration of digital finance and the Internet eases liquidity constraints to achieve inter-term smoothing of residential consumption, realizes market sinking, and plays an irreplaceable role in expanding domestic demand to smooth the domestic general circulation (Zhou et al., 2022) [9], narrowing the urban-rural gap and allowing all people to share the fruits of economic development (Li et al., 2019) [10].

In summary, at this stage, the research mainly focuses on the relationship between traditional finance and industrial structure and the threshold effect. There still remains a relative lack of research on digital finance and industrial structure upgrading, while the path of digital finance acting on industrial structure is yet to be clarified. This paper attempts to expand on the basis of existing research as follows: First, it breaks through the long-standing linear relationship of digital finance and expands the non-linear effect of digital finance on industrial structure. Based on the regression analysis of Chinese provincial panel data, it finds that digital finance has a U-shaped relationship with industrial structure upgrading, i.e. digital finance develops to a certain extent and has a positive effect on industrial structure, which enriches the relevant theoretical framework. Second, attempting dimensional and perspective innovation, this paper draws on the study of Guo Feng et al. (2019) [11] to argue the relationship between the dimensions of digital inclusive finance and industrial structure based on three dimensions of digital inclusive finance, namely, the breadth of coverage, depth of use and digitization of digital services. In addition, considering the uneven development of China's middle, east and west regions, the paper verifies the heterogeneity of digital finance and industrial structure upgrading in different regions, and for the first time explores the specific impact of digital finance on the three major industries, making the research results more detailed and practical.

3. Empirical Design

3.1 Econometric Model

Based on the questions to be explored above in the paper, the idea of setting up the empirical model in this paper focuses on testing whether the development of digital finance in each province and region of China will have an impact on the industrial structure of the region. The basic panel nonlinear regression model is specifically set as follows

$$is_{it} = \beta_0 + \beta_1 ifi_{it} + \beta_2 ifi_{it}^{\ 2} + \beta_3 X_{it} + \varepsilon_{it}$$

Here is is the explanatory variable, representing the level of industrial structure upgrading; ifi is the core explanatory variable, representing the level of digital finance development; i denotes, t denotes year; X is the other control variables, mainly including the level of investment, the degree of government intervention, the strength of environmental regulation, the level of infrastructure, and technological factors; ε_{it} is the error disturbance term.

3.2 Variable Description

1) Explanatory variable: industrial structure upgrading index (is). Industrial structure upgrading means the change of industry and the improvement of efficiency. In order to comprehensively and accurately reflect the purpose of this paper's research and the connotation of industrial structure upgrading, the following draws on Xu and Jiang (2015) [12] in order to make a reasonable measure of the level of industrial structure upgrading, and the specific formula is as follows:

$$is = \sum_{i=1}^{3} I_i \times i = I_1 \times 1 + I_2 \times 2 + I_3 \times 3$$

Here, I_i denotes the ratio of the output value of the first industry to the total output value. Generally speaking, this index mainly reflects the upgrading relationship among the three industries. The larger the value of is is, the higher the level of industrial structure development is, which also means that the industrial structure upgrading effect of the region is more significant.

2) Core explanatory variables: digital financial inclusion index (ifi) and its dimensional indices ($breadth$、$depth$、dig). This paper adopts the Peking University Digital Financial Inclusion Index to measure the level of digital financial development in each province. It is worth noting that this index is compiled

with the help of massive data from Ant Financial Services Group, using the AHP hierarchical analysis method to summarize three dimensions of digital finance coverage, depth of use and digitalization. scientific and credible data basis. In this paper, the logarithm of the third index, i.e., the data of 30 provinces (excluding Tibet) from 2011-2020, is used as the core explanatory variable.

In addition, the breadth of digital financial coverage mainly reflects the number of electronic account openings (e.g., Internet-bound bank accounts and their payment accounts); the depth of use focuses on showing the amount and number of transactions per capita of customers in credit business, insurance business, payment business and credit business; the degree of digitalization reflects the convenience and cost control of users.

3) Control variables. Referring to the variable settings of Tang (2019) [13], this paper selects the following control variables that may be involved in industrial structure upgrading: (i) Investment in fixed assets (inv). fixed assets are the basis for the generation of material materials, and their investment scale has an important impact on the productivity level and industrial structure of each region, which is measured by the ratio of total fixed assets to the GDP of the region in each province. (ii) The degree of government intervention (gov). The government will take some fiscal and monetary instruments to regulate and control according to the macroeconomic form of the market and relevant national policies, which is a major factor affecting the upgrading of industrial structure and cannot be ignored, expressed by the ratio of fiscal expenditure to GDP in the region. (iii) Environmental regulation strength (er). The strategic decisions and production costs of micro enterprises are to a certain extent limited by the strength of environmental regulations, and enterprises with high resource allocation win under the “screening” process, which affects the industrial structure. This is measured by the investment in industrial pollution control compared to GDP. (iv) The level of infrastructure (basic), the improvement of infrastructure is conducive to reducing the cost of transportation between regions, expressed as the sum of road miles plus rail miles divided by two. (v) Technology factor (rd), the improvement of technology innovation level directly affects the change of industrial structure, measured by the ratio of RD internal expenditure to GDP.

3.3 Data Description

In terms of sample and data selection, in order to reduce heteroskedasticity, the logarithmic form of each variable is used in the empirical evidence. Except for the digital financial inclusion index of Peking University, all the data are obtained from the China Statistical Yearbook and the China Science and Technology Statistical Yearbook. Due to the absence of sample values in Tibet, the panel data of 30 provinces across China were finally selected, spanning the period 2011-2020. Table 1 shows the descriptive statistics of each variable with 300 observations, reflecting that the level of industrial structure and the level of digital finance development in each province are highly differentiated, and the gap in the digitalization of their digital finance is particularly significant. This also indicates the need to study the nonlinear impact of digital finance on industrial structure in each region.

Table 1 Descriptive Statistics of Variables

Variable Name	Observed Value	Mean Value	Standard Deviation	Min	Max
is	300	2.373	0.130	2.166	2.836
ifi	300	217.246	96.968	18.330	431.928
breadth	300	198.010	96.334	1.960	397.002
depth	300	212.036	98.106	6.760	488.683
digitization	300	290.238	117.644	7.580	462.228
inv	300	0.793	0.258	0.210	1.480
er	300	0.003	0.003	0.000	0.028
gov	300	0.250	0.103	0.110	0.643
basic	300	0.982	0.525	0.092	2.225
rd	300	0.017	0.011	0.004	0.064

4. Empirical Analysis

4.1 Baseline Regression of Digital Finance on Industry Structure

This paper uses panel data for the regressions, and Table 2 presents the results of the baseline regressions. Among them, column (1) is the estimated effect of fixed effects, and column (2) (3) (4) is the stepwise regression method based on fixed effects with the addition of control variables, in which neither the positive nor negative sign of the primary nor the secondary term changes, indicating that the control variables do not affect the direction of the effect of digital finance on industrial structure. Model (4) shows that the coefficients of ifi and ifi2 -0.1489 and 0.0241 are significant at 1% level of significance, indicating that there is a non-linear relationship between digital finance and industrial structure in China. The coefficient of ifi is positive and the coefficient of the quadratic term of ifi is negative in a U-shaped relationship, that is, digital finance is first inhibiting and then promoting industrial structure upgrading. It will have an optimization effect on the industrial structure after digital finance reaches a certain stage. The reasons for this may be: (1) The problem of excessive financialization. At the time of the rise of digital finance, its overwhelming profits led to its excessive speculative expansion, which squeezed other industries causing hollowing out of the industrial structure. (2) The problem of docking derailment. At the stage when digital finance is not yet developed, micro and small enterprises as the main body often due to the inherent lack of liquidity and high-risk characteristics, the high opportunity cost of trial and error will not be easily embedded in the digital finance structure has not yet been perfected, and even if they obtain a certain amount of financial support through it, they will choose to have the stability of expanding production rather than innovation and transformation. In addition, the

lack of financial knowledge of individuals and the unpopularity of the operation of the use process of digital finance can also lead to the derailment of the supply side from the demand side, which leads to the transformation and upgrading of the industrial structure that can be inhibited by digital finance in the early stage. However, as digital finance continues to improve and services are upgraded, the flow of funds to enterprises is accelerated, increasing capital accumulation within the industry. Through the capital-oriented mechanism, it will help high-tech enterprises to better raise the funds needed for innovative projects and promote the gradual pace of industrial upgrading of industrial institutions.

Table 2: Test Results of the Effect of Digital Finance on the Upgrading of China's Industrial Economy

	(1)	(2)	(3)	(4)
ifi	-0.1154**	-0.1213**	-0.1414**	-0.1489**
	(0.040)	(0.040)	(0.042)	(0.042)
ifi2	0.0191**	0 .0205***	0.0233**	0.0241**
	(0.006)	(0 .006)	(0 .006)	(0 .006)
inv		-0.0034	-0.0037	-0.0021
		(0.004)	(0.004)	(0.004)
er		0 .0032**	0 .0033**	0 .0032**
		(0.001)	(0.001)	(0.001)
gov			0.0159*	0.0180**
			(0.008)	(0.008)
basic			0.0381**	0.0452**
			(0.014)	(0.014)
rd				-0.0138**
				(0.007)
constant	0.9917**	1.0133**	1.0884**	1.0489**
	(0.067)	(0.067)	(0.074)	(0.076)
Provincial area fixed effects	yes	yes	yes	yes
Year fixed effects	yes	yes	yes	yes
Adjusted-R^2	0.850	0.854	0.859	0.861
Sample size	300	300	300	300

Note: In parenthesis are robust standard errors. ***, ** and * indicate significant at 1%, 5% and 10% levels respectively (same below).

4.2 Heterogeneity Analysis of Digital Finance Dimensions

Digital finance can be divided into multiple dimensions, and while considering the impact of its dynamic development on the upgrading of industrial structure, its diversified characteristics cannot be ignored to explore the optimization role of digital finance on industrial structure in a deeper way. To detect the impact of digital finance indices of different dimensions on industrial structure, this paper uses the breadth of coverage, depth of use and digitization of digital finance instead of the total index for regression, and the results are shown in Table 3.

Table 3: Test Results of the Effect of Digital Finance Sub-Index on the Upgrading of China's Industrial Economy

	Breadth	Depth	Digitalization
breadth	-0.0464***		
	(0.0100)		
breadth2	0.0090***		
	(0.0019)		
depth		-0.0377**	
		(0.019)	
depth2		0 .0071**	
		(0.0030)	
digital			0.0094
			(0.020)
digital2			-0.0017
			(0.003)
control	Control	Control	Control
constant	0.8376***	0.8758***	0.8093***
	(0 .033)	(0.044)	(0.053)
Provincial area fixed effects	yes	yes	yes
Year fixed effects	yes	yes	yes
Adjusted-R^2	0.864	0.856	0.859
Sample size	300	300	300

As can be seen from Table 3, the breadth of coverage and depth of use of digital finance are significant at 1% and 5% significance levels respectively, and are similar to the regression results of the total index in that both have a U-shaped relationship on industrial structure upgrading, and the promotion effect of breadth of coverage is more obvious. However, the digitalization of digital finance does not have a significant effect on the optimization of industrial structure. The reason may be that the breadth of coverage as a prerequisite for digital finance to function is consistent with the requirement of continuously accelerating the structural reform on the supply side. Increasing effective supply will promote industrial structure upgrading, and digital finance will continue to enhance his influence as its breadth and depth of use are upgraded to provide funds for high-tech industries and green service industries to promote industrial structure upgrading. And the level of digitalization may not reach the corresponding height to meet the demand of digital finance for industrial structure optimization.

4.3 Regional Heterogeneity Analysis

As the level of economic development, resource endowment and industrial structure vary among regions in China, different levels of digital finance development in each region will lead to certain differences in the upgrading of industrial structure. In this paper, the western region includs Sichuan, Chongqing, Guizhou, Yunnan, Shaanxi, Gansu, Qinghai, Ningxia, Xinjiang, Inner Mongolia, and Guangxi; the central region includs Shanxi, Jilin, Heilongjiang, Anhui, Jiangxi, Henan, Hubei, and Hunan; and the eastern region includs Beijing, Tianjin, Shanghai, Liaoning, Hebei, Shandong, Jiangsu, Zhejiang, Fujian, Guangdong, and Hainan. The regression results are shown in Table 4.

Table 4: Regression Results by Region

	East	Middle	West
ifi	0.0280***	0.0354	-0.0440***
	(0.009)	(0.034)	(0.014)
inv	-0.0036	0.0201**	0.00008
	（0.003）	(0.009）	（0.011）
er	0.0011	0.0030	0.009***
	（0.001）	（0.004）	（0.003）
gov	0.0236***	-0.0702***	0.0599***
	（0.009）	（0.018）	（0.0219）
basic	0.0576***	0.0235	-0.0472
	（0.016）	（0.030)	(0.039)
rd	-0.0028	-0.0221	-0.0308***
	（0.009）	（0.015）	(0.0120)
constant	0.7811***	0.4989***	0.8875***
	(0 .046)	(0.143)	(0.077)
Provincial area fixed effects	yes	yes	yes
Year fixed effects	yes	yes	yes
Adjusted-R^2	0.947	0.905	0.881
Sample size	120	90	90

From the results of group regression, the digital finance index is significantly positive in the eastern region, insignificant in the central region, and significantly negative in the western region, indicating that digital finance mainly promotes the upgrading of industrial institutions in the eastern region and inhibits the development of industrial structure in the western region. The reasons may be the higher level of development of digital finance in the eastern region, the more sound system, the favorable economic environment and the stronger role of digital finance in upgrading the industrial structure. The lower level of development of digital finance in China's middle and western regions, resource constraints, and relatively more constrained economic environment will lead to more digital finance funds flowing to traditional enterprises rather than new technology innovation enterprises, resulting in misallocation of resources, which not only does not significantly stimulate industrial structure upgrading, but even inhibits industrial structure transformation to a certain extent.

4.4 Regression Analysis by Industry

In order to explore the intrinsic mechanism of digital finance on the upgrading of China's industrial structure, this paper considers the impact of digital finance on different industries using data from three major industries respectively. The results are shown in Table 5.

Table 5: Regression Results by Industry

	First industry	Second industry	Third industry
ifi	1.0969***	0.0546	-0.5218***
	(0.388)	(0.197)	(0.190)
ifi2	-0.1241**	-0.0088	0.0946***
	（0.059）	(0.030)	（0.029）
inv	0.0587	0.0188	-0.0055
	（0.038）	（0.019）	（0.019）
er	-0.0069	0.0001	0.0183***
	（0.013）	（0.006）	（0.006）
gov	0.5181***	-0.2664***	0.1767***
	(0.079)	（0.040）	（0.039）
basic	0.4523***	-0.0496	0.1614**
	（0.138）	（0.070)	(0.068)
rd	-0.0171	0.1550	-0.0756**
	（0.068）	（0.034）	(0.033)
constant	-3.7630***	-0.5321***	-0. 2012
	(0 .709)	(0.359)	(0.347)
Provincial area fixed effects	yes	yes	yes
Year fixed effects	yes	yes	yes
Adjusted-R^2	0.579	0.843	0.861
Sample size	300	300	300

We find that digital finance has a "U-shaped" relationship for the primary industry, an "inverted U-shaped" relationship for the tertiary industry, and no significant impact on the secondary industry. This result suggests that digital finance in China has a "U-shaped" relationship with industrial structure upgrading. This is mainly due to the "U-shaped" relationship of digital finance to the tertiary industry, which is characterized by high value-added products, high labor efficiency, strong absorption power and large scale, which determines the "U-shaped relationship" of digital finance to the upgrading of industrial structure. The lack of significant impact on the secondary industry may also be due to the fact that digital finance in the development process to the high pollution and high energy-consuming industries to produce capital tilt, while promoting the development of the tertiary industry squeezed a space for the transformation of the secondary industry, ultimately leading to its impact is not significant.

4.5 Robustness Test

In order to ensure the robustness of China's digital finance to the U-shaped relationship of industrial structure upgrading, the following methods are used to detect in this paper: (1) Lag for one period. Considering that the time series correlation of this empirical model is not too strong, and is caused by the interference of variables in this period, we re-estimate the lag period of the core variable, and the result is still U-shaped, indicating that it has a certain lag effect. (2) Tool variables. This paper uses Ifi(t-1) and

Ifi2(t-1) as instrument variables, which can not only ensure the exogenousness of instrumental variables for industrial structure upgrading, but also ensure the significant correlation of instrumental variables to digital finance. This paper uses the means of the 2SLS method to test. (3) Eliminate important areas. Since the municipality has economic, policy, ecological, cultural and other advantages, which will have a significant impact on the results, we selected the data of the 30 provinces in the panel data of Beijing, Shanghai, Tianjin and Chongqing, and then carried out the above return. After the robustness test, the conclusion of the benchmark regression is generally the same as that of the previous paper.

Table 6: Robustness Test

	One-period lag	Endogenousness	Data replacement
Ifi (t-1)	-0.1656***	-0.7900***	-0.1612***
	(0.039)	(0.218)	(0.047)
ifi2 (t-1)	0.0273***	0.1060***	0.0252***
	（0.006）	(0.030)	（0.007）
inv	1.77e-06	-0.0117**	-0.0042
	（0.004）	（0.006）	（0.004）
er	0.0029**	0.0041***	0.0038**
	（0.001）	（0.002）	（0.002）
gov	0.0133	0.0433***	0.0170*
	(0.008)	（0.013）	（0.010）
basic	0.0442***	0.0635***	0.0387**
	（0.015）	（0.018)	(0.017)
rd	-0.0183**	-0.0149*	-0.0159**
	（0.007）	（0.008）	(0.008)
constant	1.0425***	2.2630***	1.0580
	(0 .072)	(0.439)	(0.086)
Provincial area fixed effects	yes	yes	yes
Year fixed effects	yes	yes	yes
Adjusted-R^2	0.865	0.822	0.860
Sample size	270	270	260

5. Conclusion and Implications

This paper studies the impact of China's digital finance on the transformation and upgrading of industrial structure, and explores the path mechanism of its internal impact. The paper finds that: First, China's digital finance has a "U-shaped" relationship with the upgrading of industrial structure. When digital finance develops to a certain stage, it will promote the optimization of industrial structure. Second, from a dimensional point of view, the coverage breadth and depth of use of digital inclusive finance also have the effect of first inhibiting and then promoting the industrial structure, especially as the coverage breadth continues to expand, and the upgrading of the industrial structure continues to accelerate. Third, digital finance has a regional heterogeneous impact, which promotes the upgrading of the industrial structure in the economically developed eastern region and inhibits the transformation of the industrial structure in the central and western regions where resources are relatively backward. Fourth, digital finance and the primary industry show an inverted U-shaped relationship, and the tertiary industry shows a U-shaped relationship, and due to the particularity of the tertiary industry, it greatly affects the non-linear relationship between the total index of digital finance and the industrial structure. Therefore, this paper has the following implications:

(1) Comprehensively deepen the development of digital finance and increase the degree of digitalization of digital finance. In China, we are mainly concentrating on the scale and number of users of digital finance at the stage, ignoring the construction of its digitalization. According to the data analysis of this paper, the degree of digitalization of digital finance has not yet reached the conditions required to promote the upgrading of industrial structure. In view of this, China should accelerate the construction of digital finance infrastructure, broaden its connection with financing, and make efforts to reduce the cost of use and improve convenience; at the same time, we also have to strengthen supervision and management. Excessive intervention, disorderly development, excessive financial, ineffective competition and other phenomena will all weaken the positive transmission mechanism.

(2) Continuously promote the pace of high-quality economic development and stimulate supply-side structural reform. We need to build a diversified financial system, improve the efficiency of the financial system, improve the structure of the financial market, provide a good external environment for the development of digital finance, and reduce the misallocation of resources and the occurrence of credit suppression. The high-quality development of the economy needs to be adapted to the needs of the digital financial market. In addition, we should step up the strategy of rejuvenating the country through science and education, cultivate high-tech talents, combine production and education, enhance the independent innovation ability of enterprises to make them better eliminate backward production capacity, and transfer digitalization to the industrial structure.

(3) Adhere to the coordination of regional economic integration and narrow the gap between regions. Due to the uneven economic, resource and ecological levels in the eastern, middle and western regions, and the local cultural and educational level in the middle and western regions is relatively backward, it is not conducive to the upgrading of the industrial structure. The government should rely on big data and artificial intelligence to improve the reach of digital financial services in underdeveloped areas and optimize the efficiency of resource allocation. At the same time, the government needs to unify universality and particularity, take into account the different realities of the regions in the east and west, flexibly formulate corresponding digital financial policies and development strategies, and promote the optimization and upgrading of the industrial structure in various places according to local conditions.

References

1. Lewis,W.Economic Development with Unlimited Supplies of Labor [J].Manchester School of Economic and Social Studies,1954,(22).
2. Fernando J. Cardim de Carvalho. On the nature and role of financial systems in Keynes's entrepreneurial economies[J]. Journal of Post Keynesian Economics,2016,39(3).
3. Wang Lanping,Wang Yu,Liu Siyu,Lu Yuduo,Du Xiaomin. The Non-Linear Effect of Financial Development on Promoting Industrial Structure Upgrading[J]. Scientology Research,2020,38(02):239-251.
4. Cai Hongyan,Yan Qingmin. Industrial Restructuring and Financial Development: A Cross-Industry Research Study from China[J]. Management World,2004(10):79-84.
5. Sun Xiangxiang, Zhou Xiaoliang, Huang Liangxiong. Development of Capital Market and Upgrading of Industrial Structure[J]. Industrial Economics Review,2018(06):86-104.
6. Tang, Song, Wu, X. Chuan, Zhu, Jia. Digital Finance and Enterprise Technology Innovation: Structural Feature, Mechanism Identification and Effect Difference under Financial Supervision[J]. Management World,2020,36(05):52-66+9.
7. Wang J, Wang J, Wang Yewei. How does the Digital Finance Affect the Carbon Intensity of the Manufacturing Industry? [J]. China Population-Resources and Environment,2022,32(07):1-11.
8. Huang Y.C., Huang Y.S., Hu S.L., Jia L. Can Digital Finance Boost Green and Low Carbon Development? [J]. Journal of Nanjing University of Finance and Economics,2022(04):88-97.
9. Zhou, Renyuan, Zhang, Xiangjian. Can Digital Inclusive Finance Promote Shared Development? – An examination based on the perspective of dual upgrading of industry and consumption[J]. Xinjiang Social Science,2022(03):57-71+178-179.
10. Li JJ, Han XUN. The Effect of Financial Inclusion on Income Distribution and Poverty Alleviation: Policy Framework Selection for Efficiency and Equity[J]. Financial Studies,2019(03):129-148.
11. Guo F, Wang JY, Wang F et al. Measuring China's Digital Financial Inclusion Development: Index Compilation and Spatial Characteristics [R]. Beijing: Digital Finance Research Center, Peking University, 2019.
12. Xu M, Jiang Y. Can the China's Industrial Structure Upgrading Narrow the Gap between Urban and Rural Consumption? [J]. Quantitative Economic and Technical Economics Research,2015,32(03):3-21.
13. Tang Wenjin,Li Shuang,Tao Yunqing. The Development of Digital Inclusive Finance and Industrial Structure Upgrading - Empirical Evidence from 283 Cities[J]. Journal of Guangdong University of Finance and Economics,2019,34(06):35-49.